

What is claimed is:

1. A CDMA receiver for receiving a plurality of reception data and determining correlated value levels while shifting despreading timings for respective users to obtain optimum reception timings for the respective users,  
5 comprising:

a searcher comprising:

a delay profile calculator having A dedicated correlators (A is an integer of 2 or greater) allocated to each user and C shared correlators (C is an integer of 2 or greater) allocated to each user; and

10 a correlator allocation controller for calculating the numbers (f1 through fM) of shared correlators allocated to respective subscribing users (Y1 through YM (M: the maximum number of subscribing users) based on said number of subscribing users and the total number (C) of shared correlators allocated to the subscribing users, and outputting data indicative of the  
15 numbers of shared correlators allocated to the respective subscribing users to said delay profile calculator.

2. A CDMA receiver according to claim 1, wherein said delay profile calculator calculates, as the numbers of correlators allocated to the subscribing users, the sum of the numbers (f1 through fM) of shared correlators  
20 allocated to the respective subscribing users, which have been output from said correlator allocation controller, and the number (A) of dedicated correlators allocated to each user.

25 3. A CDMA receiver according to claim 1, wherein said correlator allocation controller comprises:

a subscribing user number measuring unit for measuring the number of subscribing users and outputting data indicative of the measured number of subscribing users; and

5 a shared correlator number calculator for calculating the numbers of shared correlators allocated to the subscribing users from said measured number of subscribing users and said total number of shared correlators, and outputting data indicative of the numbers of shared correlators for the respective subscribing users to said delay profile calculator.

10 4. A CDMA receiver according to claim 3, wherein said shared correlator number calculator makes a comparison in each given period of time to determine whether the number of subscribing users has been changed or not, and if the number of subscribing users has been changed, calculates the numbers of shared correlators allocated to the respective users from the number of subscribing users and the total number of shared correlators, and outputs data indicative of the numbers of shared correlator numbers for the respective users to said delay profile calculator.

20 5. A CDMA receiver according to claim 4, wherein said subscribing user number measuring unit measures the number of users whose reception data quality is lower than a threshold value, outputs data indicative of the number of users whose reception data quality is lower than the threshold value to said shared correlator number calculator if the number of users whose reception data quality is lower than the threshold value is greater than 0, and outputs data indicative of the number of subscribing users to said shared correlator number calculator if the number of users whose reception

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data quality is lower than the threshold value is 0.

6. A CDMA receiver according to claim 4, wherein said subscribing user number measuring unit measures the number of users whose cell radius magnitude is equal to or greater than a threshold value, outputs data  
5 indicative of the number of users whose cell radius magnitude is equal to or greater than the threshold value to said shared correlator number calculator if the number of users whose cell radius magnitude is equal to or greater than the threshold value is greater than 0, and outputs data indicative of the  
10 number of subscribing users to said shared correlator number calculator if the number of users whose cell radius magnitude is equal to or greater than the threshold value is 0.

7. A CDMA receiver according to claim 1, wherein said correlator  
15 allocation controller comprises:

a subscribing user sector number measuring unit for measuring the numbers of sectors for respective subscribing users and outputting data indicative of the total number of sectors for the subscribing users; and  
a shared correlator number calculator for calculating the num-  
20 bers of shared correlators allocated to the subscribing users from said measured number of subscribing users and said total number of shared correlators, and outputting data indicative of the numbers of shared correlators for the respective subscribing users to said delay profile calculator.

8. A CDMA receiver according to claim 7, wherein said shared  
25 correlator number calculator makes a comparison in each given period of

time to determine whether the total number of sectors for the subscribing users has been changed or not, and if the total number of sectors for the subscribing users has been changed, calculates the numbers of shared correlators allocated to the respective users from the total number of sectors for the  
5 subscribing users and the total number of shared correlators, and outputs data indicative of the numbers of shared correlator numbers for the respective users to said delay profile calculator.

9. A CDMA receiver according to claim 1, wherein said searcher  
10 further comprises:  
a path controller comprising:  
a release priority rank calculator for calculating release priority ranks (g1,1 through gM,C0 of shared correlators for respective subscribing users in each given period of time from peak timings for the respective users;  
15 and  
means for indicating optimum reception timing for the respective users as peak timings (b1 through bM) for the respective users based on delay profiles (e1 through eM) for the respective users which are output from said delay profile calculator.

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10. A CDMA receiver according to claim 9, wherein said release priority ranks are judged based on whether there is a path or not in the delay profiles which are output from the respective correlators, and are established such that a release priority rank is low for a correlator where there is a path  
25 and high for a correlator where there is no path.

11. A method of receiving a plurality of reception data and determining correlated value levels while shifting despread timing for respective users to allocate optimum correlators to the respective users, comprising the steps of:

5                   measuring the number of subscribing users;

                  calculating the numbers ( $f_1$  through  $f_M$ ) of shared correlators allocated to respective subscribing users ( $Y_1$  through  $Y_M$  ( $M$ : the maximum number of subscribing users) based on said number of subscribing users and the total number ( $C$ ) of shared correlators; and

10                  calculating, as the numbers of correlators allocated to the subscribing users, the sum of the number ( $A$ ) of dedicated correlators and the numbers ( $f_1$  through  $f_M$ ) of shared correlators allocated to the respective subscribing users.

15           12. A method according to claim 11, further comprising the steps of:

                  making a comparison in each given period of time to determine whether the number of subscribing users has been changed or not; and

                  if the number of subscribing users has been changed, calculating the numbers of shared correlators allocated to the respective users from the number of subscribing users and the total number of shared correlators.

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